EXHIBIT 7

UNITED STATES INTERNATIONAL TRADE COMMISSION WASHINGTON, D.C.

In the Matter of Certain Light-Based Physiological Measurement Devices and Components Thereof

Investigation No. 337-TA-1276

APPENDIX A: IDENTIFICATION OF EXEMPLARY PRIOR ART TO THE ASSERTED PATENTS

I. Identification of Exemplary Prior Art to U.S. Patent No. 10,912,501

A. U.S. Patent Publications

- 1. U.S. Patent No. 3,452,2915A (Alessio), titled "Light bulb socket adapter," and issued June 24, 1969.
- 2. U.S. Patent No. 3,760,582A (Thiess et al.), titled "Electronic timepiece with power conserving features," and issued September 25, 1973.
- 3. U.S. Patent No. 3,789,601 A (Bergey), titled "Solid state watch with magnetic setting," and issued February 5, 1974.
- 4. U.S. Patent No. 3,910,701A (Henderson et al.), titled "Method and apparatus for measuring light reflectance absorption and or transmission," and issued October 7, 1975.
- 5. U.S. Patent No. 4,015,595A (Benjamin), titled "Photoplethysmographs," and issued April 5, 1977.
- 6. U.S. Patent No. 4,114,604A (Shaw et al.), titled "Catheter oximeter apparatus and method," and issued September 19, 1978.
- 7. U.S. Patent No. 4,129,124A (Thalmann), titled "Pulse-rate indicator," and issued December 12, 1978.
- 8. U.S. Patent No. 4,224,948A (Cramer et al.), titled "Wrist borne pulse meter/chronometer," and issued September 30, 1980.
- 9. U.S. Patent No. 4,258,719A (Lewyn), titled "Heart rate measurement system," and issued March 31, 1981.
- 10. U.S. Patent No. 4,267,844A (Yamanishi), titled "Medical instrument for determining jaundice," and issued May 19, 1981.
- 11. U.S. Patent No. 4,409,470A (Shepard et al.), titled "Narrow-bodied, single-and twin-windowed portable laser scanning head for reading bar code symbols," and issued October 11, 1983.
- 12. U.S. Patent No. 4,438,338A (Stitt et al.), titled "Low profile optical coupling for an optoelectronic module," and issued March 20, 1984.
- 13. U.S. Patent No. 4,444,471A (Ford et al.), titled "Variable focus lens system employing elastomeric lens," and issued April 24, 1984.
- 14. U.S. Patent No. 4,447,150A (Heinemann), titled "Apparatus and method for measuring blood oxygen saturation," and issued May 8, 1984.

- 15. U.S. Patent No. 4,547,075 A (Fei), titled "Device for the detection and calculation of particles present in a moving suspension for hematological analyses and the like," and issued October 15, 1985.
- 16. U.S. Patent No. 4,653,498A (New, Jr. et al.), titled "Pulse oximeter monitor," and issued March 31, 1987.
- 17. U.S. Patent No. 4,655,225A (Dahne et al.), titled "Spectrophotometric method and apparatus for the non-invasive," and issued April 7, 1987.
- 18. U.S. Patent No. 4,684,245A (Goldring), titled "Electro-optical coupler for catheter oximeter," and issued August 4, 1987.
- 19. U.S. Patent No. 4,709,413A (Forrest et al.), titled "Bidirectional fiber optic systems," and issued November 24, 1987.
- 20. U.S. Patent No. 4,755,676A (Gaalema et al.), titled "Infrared detector with improved heat dissipation," and issued July 5, 1988.
- 21. U.S. Patent No. 4,759,369A (Taylor), titled "Pulse oximeter," and issued July 26, 1988.
- 22. U.S. Patent No. 4,781,195A (Martin), titled "Blood monitoring apparatus and methods with amplifier input dark current correction," and issued November 1, 1988.
- 23. U.S. Patent No. 4,782,836A (Alt), titled "Rate adaptive cardiac pacemaker responsive to patient activity and temperature," and issued November 8, 1988.
- 24. U.S. Patent No. 4,802,486A (Goodman et al.), titled "Method and apparatus for detecting optical pulses," and issued February 7, 1989.
- 25. U.S. Patent No. 4,805,623A (Jöbsis), titled "Spectrophotometric method for quantitatively determining the concentration of a dilute component in a light- or other radiation-scattering environment," and issued February 21, 1989.
- 26. U.S. Patent No. 4,819,860A (Hargrove et al.), titled "Wrist-mounted vital functions monitor and emergency locator," and issued April 11, 1989.
- 27. U.S. Patent No. 4,825,872A (Tan et al.), titled "Finger sensor for pulse oximetry system," and issued May 2, 1989.
- 28. U.S. Patent No. 4,859,057A (Taylor et al.), titled "Oximeter apparatus," and issued August 22, 1989.

- 29. U.S. Patent No. 4,865,038A (Rich et al.), titled "Sensor appliance for non-invasive monitoring," and issued September 12, 1989.
- 30. U.S. Patent No. 4,867,557A (Takatani et al.), titled "Reflection type oximeter for applying light pulses to a body tissue to measure oxygen saturation," and issued September 19, 1989.
- 31. U.S. Patent No. 4,869,253A (Craig, Jr. et al.), titled "Method and apparatus for indicating perfusion and oxygen saturation trends in oximetry," and issued September 26, 1989.
- 32. U.S. Patent No. 4,880,304A (Jaeb et al.), titled "Optical sensor for pulse oximeter," and issued November 14, 1989.
- 33. U.S. Patent No. 4,903,701 A (Moore et al.), titled "Oxygen sensing pacemaker," and issued February 27, 1990.
- 34. U.S. Patent No. 4,928,692A (Goodman et al.), titled "Method and apparatus for detecting optical pulses," and issued May 29, 1990.
- 35. U.S. Patent No. 4,933,545A (Saaski et al.), titled "Optical pressuresensing system using optical resonator cavity," and issued June 12, 1990.
- 36. U.S. Patent No. 4,938,218A (Goodman et al.), titled "Perinatal pulse oximetry sensor," and issued July 3, 1990.
- 37. U.S. Patent No. 4,941,236A (Sherman et al.), titled "Magnetic clasp for wristwatch strap," and issued July 17, 1990.
- 38. U.S. Patent No. 4,945,239A (Wist et al.), titled "Early detection of breast cancer using transillumination," and issued July 31, 1990.
- 39. U.S. Patent No. 4,955,379A (Hall), titled "Motion artefact rejection system for pulse oximeters," and issued September 11, 1990.
- 40. U.S. Patent No. 4,960,128A (Gordon et al.), titled "Method and apparatus for continuously and non-invasively measuring the blood pressure of a patient," and issued October 2, 1990.
- 41. U.S. Patent No. 4,960,314A (Smith et al.), titled "Diffraction optics diffusing screen laminate for full color on-axis viewing," and issued October 2, 1990.
- 42. U.S. Patent No. 4,964,408A (Hink et al.), titled "Oximeter sensor assembly with integral cable," and issued October 23, 1990.

- 43. U.S. Patent No. 5,007,423 A (Branstetter et al.), titled "Oximeter sensor temperature control," and issued April 16, 1991.
- 44. U.S. Patent No. 5,025,791A (Niwa), titled "Pulse oximeter with physical motion sensor," and issued June 25, 1991.
- 45. U.S. Patent No. 5,028,787A (Rosenthal et al.), titled "Non-invasive measurement of blood glucose," and issued July 2, 1991.
- 46. U.S. Patent No. 5,035,243 A (Muz), titled "Holder sleeve for positioning a detecting and measuring sensor," and issued July 30, 1991.
- 47. U.S. Patent No. 5,041,187A (Hink et al.), titled "Oximeter sensor assembly with integral cable and method of forming the same," and issued August 20, 1991.
- 48. U.S. Patent No. 5,043,820A (Wyles et al.), titled "Focal plane array readout employing one capacitive feedback transimpedance amplifier for each column," and issued August 27, 1991.
- 49. U.S. Patent No. 5,069,213A (Polczynski), titled "Oximeter sensor assembly with integral cable and encoder," and issued December 3, 1991.
- 50. U.S. Patent No. 5,069,214A (Samaras et al.), titled "Flash reflectance oximeter," and issued December 3, 1991.
- 51. U.S. Patent No. 5,069,680A (Grandjean), titled "Muscle stimulator with variable duty cycle," and issued December 3, 1991.
- 52. U.S. Patent No. 5,077,476A (Rosenthal), titled "Instrument for non-invasive measurement of blood glucose," and issued December 31, 1991.
- 53. U.S. Patent No. 5,086,229A (Rosenthal et al.), titled "Non-invasive measurement of blood glucose," and issued February 4, 1992.
- 54. U.S. Patent No. 5,099,842A (Mannheimer et al.), titled "Perinatal pulse oximetry probe," and issued March 31, 1992.
- 55. U.S. Patent No. 5,109,849A (Goodman et al.), titled "Perinatal pulse oximetry sensor," and issued May 5, 1992.
- 56. U.S. Design Patent No. D326,715S (Schmidt), titled "Medical sensors for measuring oxygen saturation or the like," and issued June 2, 1992.
- 57. U.S. Patent No. 5,122,925A (Inpyn), titled "Package for electronic components," and issued June 16, 1992.

- 58. U.S. Patent No. 5,131,391A (Sakai et al.), titled "Pulse oxymeter having probe with warming means," and issued July 21, 1992.
- 59. U.S. Patent No. 5,137,023 A (Mendelson et al.), titled "Method and apparatus for monitoring blood analytes noninvasively by pulsatile photoplethysmography," and issued August 11, 1992.
- 60. U.S. Patent No. 5,158,082A (Jones), titled "Apparatus for heating tissue with a photoplethysmograph sensor," and issued October 27, 1992.
- 61. U.S. Patent No. 5,158,091 A (Butterfiled et al.), titled "Tonometry system for determining blood pressure," and issued October 27, 1992.
- 62. U.S. Patent No. 5,159,929A (McMillen et al.), titled "Insulated RF shield," and issued November 3, 1992.
- 63. U.S. Patent No. 5,163,438A (Gordon et al.), titled "Method and apparatus for continuously and noninvasively measuring the blood pressure of a patient," and issued November 17, 1992.
- 64. U.S. Patent No. 5,176,137A (Erickson et al.), titled "Apparatus for discrimination of stable and unstable ventricular tachycardia and for treatment thereof," and issued January 5, 1993.
- 65. U.S. Patent No. 5,190,038A (Polson et al.), titled "Pulse oximeter with improved accuracy and response time," and issued March 2, 1993.
- 66. U.S. Patent No. 5,203,329A (Takatani et al.), titled "Noninvasive reflectance oximeter sensor providing controlled minimum optical detection depth," and issued April 20, 1993.
- 67. U.S. Patent No. 5,218,962A (Mannheimer et al.), titled "Multiple region pulse oximetry probe and oximeter," and issued June 15, 1993.
- 68. U.S. Patent No. 5,222,295A (Dorris, Jr.), titled "Method for repairing diesel engine cylinder blocks," and issued June 29, 1993.
- 69. U.S. Patent No. 5,222,495A (Clarke et al.), titled "Non-invasive blood analysis by near infrared absorption measurements using two closely spaced wavelengths," and issued June 29, 1993.
- 70. U.S. Patent No. 5,222,496A (Clarke et al.), titled "Infrared glucose sensor," and issued June 29, 1993.
- 71. U.S. Patent No. 5,228,449A (Christ et al.), titled "System and method for detecting out-of-hospital cardiac emergencies and summoning emergency assistance," and issued July 20, 1993.

- 72. U.S. Patent No. 5,249,576A (Goldberger et al.), titled "Universal pulse oximeter probe," and issued October 5, 1993.
- 73. U.S. Patent No. 5,250,342A (Lang et al.), titled "Composite EMI shield having clean, highly conductive surfaces for conductive bonding," and issued October 5, 1993.
- 74. U.S. Patent No. 5,251,011 A (Fujiwara et al.), titled "Displacement detection system," and issued October 5, 1993.
- 75. U.S. Patent No. 5,254,388A (Melby et al.), titled "Light control film with reduced ghost images," and issued October 19, 1993.
- 76. U.S. Patent No. 5,254,992A (Keen et al.), titled "Low power electronic measuring system," and issued October 19, 1993.
- 77. U.S. Patent No. 5,273,036A (Kronberg et al.), titled "Apparatus and method for monitoring respiration," and issued December 28, 1993.
- 78. U.S. Patent No. 5,278,627A (Aoyagi et al.), titled "Apparatus for calibrating pulse oximeter," and issued January 11, 1994.
- 79. U.S. Patent No. 5,297,548A (Pologe), titled "Arterial blood monitoring probe," and issued March 29, 1994.
- 80. U.S. Patent No. 5,319,355A (Russek), titled "Alarm for patient monitor and life support equipment system," and issued June 7, 1994.
- 81. U.S. Patent No. 5,333,616A (Mills et al.), titled "Wrist-worn ECG monitor," and issued August 2, 1994.
- 82. U.S. Patent No. 5,337,744A (Branigan), titled "Low noise finger cot probe," and issued August 16, 1994.
- 83. U.S. Patent No. 5,337,745A (Benaron), titled "Device and method for in vivo qualitative or quantative measurement of blood chromophore concentration using blood pulse spectrophotometry," and issued August 16, 1994.
- 84. U.S. Patent No. 5,341,805A (Stavridi et al.), titled "Glucose fluorescence monitor and method," and issued August 30, 1994.
- 85. U.S. Patent No. 5,355,242A (Eastmond et al.), titled "Receiver for binary coded wireless optical data," and issued October 11, 1994.
- 86. U.S. Patent No. 5,358,519A (Grandjean), titled "Muscle control and monitoring system," and issued October 25, 1994.

- 87. U.S. Patent No. 5,362,966A (Rosenthal et al.), titled "Measurement of finger temperature in near-infrared quantitative measurement instrument," and issued November 8, 1994.
- 88. U.S. Design Patent No. D353,195S (Savage et al.), titled "Electronic stethoscope housing," and issued December 6, 1994.
- 89. U.S. Design Patent No. D353,196S (Savage et al.), titled "Stethoscope head," and issued December 6, 1994.
- 90. U.S. Patent No. 5,372,135A (Mendelson et al.), titled "Blood constituent determination based on differential spectral analysis," and issued December 13, 1994.
- 91. U.S. Patent No. 5,377,676A (Vari et al.), titled "Method for determining the biodistribution of substances using fluorescence spectroscopy," and issued January 3, 1995.
- 92. U.S. Design Patent No. D356,870S (Ivers et al.), titled "Pulse oximetry sensor," and issued March 28, 1995.
- 93. U.S. Design Patent No. D359,546S (Savage et al.), titled "Housing for a dental unit disinfecting device," and issued June 20, 1995.
- 94. U.S. Patent No. 5,427,093 A (Ogawa et al.), titled "Oximeter probe," and issued June 27, 1995.
- 95. U.S. Patent No. 5,431,170A (Mathews), titled "Pulse responsive device," and issued July 11, 1995.
- 96. U.S. Patent No. 5,436,499A (Namavar et al.), titled "High performance gas devices and method," and issued July 25, 1995.
- 97. U.S. Patent No. 5,437,275A (Amundsen et al.), titled "Pulse oximetry sensor," and issued August 1, 1995.
- 98. U.S. Patent No. 5,441,054A (Tsuchiya), titled "Apparatus for measuring absorption information in scattering medium and method therefor," and issued August 15, 1995.
- 99. U.S. Design Patent No. D361,840S (Savage et al.), titled "Stethoscope head," and issued August 29, 1995.
- 100. U.S. Design Patent No. D362,063S (Savage et al.), titled "Stethoscope headset," and issued September 5, 1995.

- 101. U.S. Patent No. 5,452,717A (Branigan et al.), titled "Finger-cot probe," and issued September 26, 1995.
- 102. U.S. Design Patent No. D363,120S (Savage et al.), titled "Stethoscope ear tip," and issued October 10, 1995.
- 103. U.S. Patent No. 5,456,252A (Vari et al.), titled "Induced fluorescence spectroscopy blood perfusion and ph monitor and method," and issued October 10, 1995.
- 104. U.S. Patent No. 5,462,051A (Oka et al.), titled "Medical communication system," and issued October 31, 1995.
- 105. U.S. Patent No. 5,479,934A (Imran), titled "EEG headpiece with disposable electrodes and apparatus and system and method for use therewith," and issued January 2, 1996.
- 106. U.S. Patent No. 5,482,034A (Lewis et al.), titled "Method and apparatus for spectrophotometric cerebral oximetry and the like," and issued January 9, 1996.
- 107. U.S. Patent No. 5,482,036A (Diab et al.), titled "Signal processing apparatus and method," and issued January 9, 1996.
- 108. U.S. Patent No. 5,490,505A (Diab et al.), titled "Signal processing apparatus," and issued February 13, 1996.
- 109. U.S. Patent No. 5,490,506A (Takatani et al.), titled "Peripheral blood flow evaluating apparatus," and issued February 13, 1996.
- 110. U.S. Patent No. 5,490,523A (Isaacson et al.), titled "Finger clip pulse oximeter," and issued February 13, 1996.
- 111. U.S. Patent No. 5,494,043A (O'Sullivan et al.), titled "Arterial sensor," and issued February 27, 1996.
- 112. U.S. Patent No. 5,497,771A (Rosenheimer), titled "Apparatus for measuring the oxygen saturation of fetuses during childbirth," and issued March 12, 1996.
- 113. U.S. Patent No. 5,511,546A (Hon), titled "Finger apparatus for measuring continuous cutaneous blood pressure and electrocardiogram electrode," and issued April 30, 1996.
- 114. U.S. Patent No. 5,533,511A (Kaspari et al.), titled "Apparatus and method for noninvasive blood pressure measurement," and issued July 9, 1996.

- 115. U.S. Patent No. 5,534,851 A (Russek), titled "Alarm for patient monitor and life support equipment," and issued July 9, 1996.
- 116. U.S. Patent No. 5,542,146A (Hoekstra et al.), titled "Electronic vacuum cleaner control system," and issued August 6, 1996.
- 117. U.S. Patent No. 5,551,422A (Simonsen et al.), titled "Method and apparatus for analytical determination of glucose in a biological matrix," and issued September 3, 1996.
- 118. U.S. Patent No. 5,553,614A (Chance), titled "Examination of biological tissue using frequency domain spectroscopy," and issued September 10, 1996.
- 119. U.S. Patent No. 5,553,615A (Carim et al.), titled "Method and apparatus for noninvasive prediction of hematocrit," and issued September 10, 1996.
- 120. U.S. Patent No. 5,553,616A (Ham et al.), titled "Determination of concentrations of biological substances using raman spectroscopy and artificial neural network discriminator," and issued September 10, 1996.
- 121. U.S. Patent No. 5,555,882A (Richardson et al.), titled "Method and apparatus for reducing ambient noise effects in electronic monitoring instruments," and issued September 17, 1996.
- 122. U.S. Patent No. 5,561,275A (Savage et al.), titled "Headset for electronic stethoscope," and issued October 1, 1996.
- 123. U.S. Patent No. 5,562,002A (Lalin), titled "Positive displacement piston flow meter with damping assembly," and issued October 8, 1996.
- 124. U.S. Patent No. 5,564,429A (Bornn et al.), titled "Method of identifying valid signal-carrying channels in a cardiorespiratory alert system," and issued October 15, 1996.
- 125. U.S. Patent No. 5,581,069A (Shepard et al.), titled "Louvered light collection arrangement in electro-optical reading systems," and issued December 3, 1996.
- 126. U.S. Patent No. 5,584,296A (Cui et al.), titled "Patient sensor for optical cerebral oximeters and the like," and issued December 17, 1996.
- 127. U.S. Patent No. 5,590,649A (Caro et al.), titled "Apparatus and method for measuring an induced perturbation to determine blood pressure," and issued January 7, 1997.

- 128. U.S. Patent No. 5,601,079A (Wong et al.), titled "Non-invasive quantification of glucose control, aging, and advanced maillard products by stimulated fluorescence," and issued February 11, 1997.
- 129. U.S. Patent No. 5,601,080A (Oppenheimer), titled "Spectrophotometric blood analysis," and issued February 11, 1997.
- 130. U.S. Patent No. 5,602,924A (Durand et al.), titled "Electronic stethescope," and issued February 11, 1997.
- 131. U.S. Design Patent No. D378,414S (Allen et al.), titled "Combined pulse rate measurement and display device," and issued March 11, 1997.
- 132. U.S. Patent No. 5,623,925A (Swenson et al.), titled "Virtual medical instrument for performing medical diagnostic testing on patients," and issued April 29, 1997.
- 133. U.S. Patent No. 5,625,458A (Alfano et al.), titled "Method and system for imaging objects in turbid media using diffusive fermat photons," and issued April 29, 1997.
- 134. U.S. Patent No. 5,632,272A (Diab et al.), titled "Signal processing apparatus," and issued May 27, 1997.
- 135. U.S. Patent No. 5,635,700A (Fazekas), titled "Bar code scanner with multi-channel light collection," and issued June 3, 1997.
- 136. U.S. Patent No. 5,638,816A (Kiani-Azarbayjany et al.), titled "Active pulse blood constituent monitoring," and issued June 17, 1997.
- 137. U.S. Patent No. 5,638,818A (Diab et al.), titled "Low noise optical probe," and issued June 17, 1997.
- 138. U.S. Patent No. 5,645,440A (Tobler et al.), titled "Patient cable connector," and issued July 8, 1997.
- 139. U.S. Patent No. 5,671,914A (Kalkhoran et al.), titled "Multi-band spectroscopic photodetector array," and issued September 30, 1997.
- 140. U.S. Patent No. 5,676,143A (Simonsen et al.), titled "Apparatus for analytical determination of glucose in a biological matrix," and issued October 14, 1997.
- 141. U.S. Patent No. 5,685,299A (Diab et al.), titled "Signal processing apparatus," and issued November 11, 1997.

- 142. U.S. Patent No. 5,687,717A (Halpern et al.), titled "Patient monitoring system with chassis mounted or remotely operable modules and portable computer," and issued November 18, 1997.
- 143. U.S. Patent No. 5,699,808A (John), titled "EEG operative and post-operative patient monitoring system and method," and issued December 23, 1997.
- 144. U.S. Patent No. 5,702,429A (King), titled "Neural stimulation techniques with feedback," and issued December 30, 1997.
- 145. U.S. Design Patent No. D390,666S (Lagerlof), titled "Patient computer for controlled individualized medication," and issued February 10, 1998.
- 146. U.S. Patent No. 5,719,557A (Rattman et al.), titled "Photoelectric smoke detector," and issued February 17, 1998.
- 147. U.S. Patent No. 5,726,440A (Kalkhoran et al.), titled "Wavelength selective photodetector," and issued March 10, 1998.
- 148. U.S. Patent No. 5,729,203A (Oka et al.), titled "Emergency call system," and issued March 17, 1998.
- 149. U.S. Design Patent No. D393,830S (Tobler et al.), titled "Patient cable connector," and issued April 28, 1998.
- 150. U.S. Patent No. 5,743,262A (Lepper, Jr. et al.), titled "Blood glucose monitoring system," and issued April 28, 1998.
- 151. U.S. Patent No. 5,746,206A (Mannheimer), titled "Isolated layer pulse oximetry," and issued May 5, 1998.
- 152. U.S. Patent No. 5,746,697A (Swedlow et al.), titled "Medical diagnostic apparatus with sleep mode," and issued May 5, 1998.
- 153. U.S. Patent No. 5,747,806A (Khalil et al.), titled "Method and apparatus for multi-spectral analysis in noninvasive NIR spectroscopy," and issued May 5, 1998.
- 154. U.S. Patent No. 5,750,927A (Baltazar), titled "Fire protection arrangement for temperature-sensitive, heat-producing article," and issued May 12, 1998.
- 155. U.S. Patent No. 5,750,994A (Schlager), titled "Positive correlation filter systems and methods of use thereof," and issued May 12, 1998.

- 156. U.S. Patent No. 5,752,914A (Delonzor et al.), titled "Continuous mesh EMI shield for pulse oximetry sensor," and issued May 19, 1998.
- 157. U.S. Patent No. 5,758,644A (Diab et al.), titled "Manual and automatic probe calibration," and issued June 2, 1998.
- 158. U.S. Patent No. 5,760,910A (Lepper Jr. et al.), titled "Optical filter for spectroscopic measurement and method of producing the optical filter," and issued June 2, 1998.
- 159. U.S. Patent No. 5,766,131A (Kondo et al.), titled "Pulse-wave measuring apparatus," and issued June 16, 1998.
- 160. U.S. Patent No. 5,769,785A (Diab et al.), titled "Signal processing apparatus and method," and issued June 23, 1998.
- 161. U.S. Patent No. 5,782,757A (Diab et al.), titled "Low-noise optical probes," and issued July 21, 1998.
- 162. U.S. Patent No. 5,785,659A (Caro et al.), titled "Automatically activated blood pressure measurement device," and issued July 28, 1998.
- 163. U.S. Patent No. 5,791,347A (Flaherty et al.), titled "Motion insensitive pulse detector," and issued August 11, 1998.
- 164. U.S. Patent No. 5,792,052A (Isaacson et al.), titled "Finger clip pulse oximeter," and issued August 11, 1998.
- 165. U.S. Patent No. 5,795,300A (Bryars), titled "Heart pulse monitor," and issued August 18, 1998.
- 166. U.S. Patent No. 5,797,841A (Delonzor et al.), titled "Shunt barrier in pulse oximeter sensor," and issued August 25, 1998.
- 167. U.S. Patent No. 5,800,348A (Kaestle), titled "Apparatus and method for medical monitoring, in particular pulse oximeter," and issued September 1, 1998.
- 168. U.S. Patent No. 5,800,349A (Isaacson et al.), titled "Offset pulse oximeter sensor," and issued September 1, 1998.
- 169. U.S. Patent No. 5,807,247A (Merchant et al.), titled "Method and apparatus for facilitating compatibility between pulse oximeters and sensor probes," and issued September 15, 1998.

- 170. U.S. Patent No. 5,810,734A (Caro et al.), titled "Apparatus and method for measuring an induced perturbation to determine a physiological parameter," and issued September 22, 1998.
- 171. U.S. Patent No. 5,817,008A (Rafert et al.), titled "Conformal pulse oximetry sensor and monitor," and issued October 6, 1998.
- 172. U.S. Patent No. 5,823,950A (Diab et al.), titled "Manual and automatic probe calibration," and issued October 20, 1998.
- 173. U.S. Patent No. 5,826,885A (Helgeland), titled "Magnetic fluid sealing device," and issued October 27, 1998.
- 174. U.S. Patent No. 5,830,131A (Caro et al.), titled "Apparatus and method for measuring an induced perturbation to determine a physical condition of the human arterial system," and issued November 3, 1998.
- 175. U.S. Patent No. 5,830,137A (Scharf), titled "Green light pulse oximeter," and issued November 3, 1998.
- 176. U.S. Patent No. 5,833,618A (Caro et al.), titled "Apparatus and method for measuring an induced perturbation to determine a physiological parameter," and issued November 10, 1998.
- 177. U.S. Patent No. 5,842,982A (Mannheimer), titled "Infant neonatal pulse oximeter sensor," and issued December 1, 1998.
- 178. U.S. Design Patent No. D403,070S (Maeda et al.), titled "Sphygmomanometer," and issued December 22, 1998.
- 179. U.S. Patent No. 5,851,178A (Aronow), titled "Instrumented laser diode probe connector," and issued December 22, 1998.
- 180. U.S. Patent No. 5,854,706A (Alb), titled "System for viewing stereoscopic images," and issued December 29, 1998.
- 181. U.S. Patent No. 5,860,919A (Kiani-Azarbayjany et al.), titled "Active pulse blood constituent monitoring method," and issued January 19, 1999.
- 182. U.S. Patent No. 5,860,932A (Goto et al.), titled "Blood pressure monitor," and issued January 19, 1999.
- 183. U.S. Patent No. 5,890,929A (Mills et al.), titled "Shielded medical connector," and issued April 6, 1999.
- 184. U.S. Patent No. 5,891,022A (Pologe), titled "Apparatus for performing multiwavelength photoplethysmography," and issued April 6, 1999.

- 185. U.S. Patent No. 5,893,364A (Haar et al.), titled "Apparatus for light reflection measurements," and issued April 13, 1999.
- 186. U.S. Patent No. 5,902,235A (Lewis et al.), titled "Optical cerebral oximeter," and issued May 11, 1999.
- 187. U.S. Patent No. 5,903,357A (Colak), titled "Method and apparatus for imaging an interior of a turbid medium," and issued May 11, 1999.
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II. Identification of Exemplary Prior Art to U.S. Patent No. 10,912,502

A. U.S. Patent Publications

- 1. U.S. Patent No. 3,452,215A (Alessio), titled "Light bulb socket adapter," and issued June 24, 1969.
- 2. U.S. Patent No. 3,760,582A (Thiess et al.), titled "Electronic timepiece with power conserving features," and issued September 25, 1973.
- 3. U.S. Patent No. 3,789,601 A (Bergey), titled "Solid state watch with magnetic setting," and issued February 5, 1974.
- 4. U.S. Patent No. 3,910,701A (Henderson et al.), titled "Method and apparatus for measuring light reflectance absorption and or transmission," and issued October 7, 1975.
- 5. U.S. Patent No. 4,015,595A (Benjamin), titled "Photoplethysmographs," and issued April 5, 1977.
- 6. U.S. Patent No. 4,114,604A (Shaw et al.), titled "Catheter oximeter apparatus and method," and issued September 19, 1978.
- 7. U.S. Patent No. 4,129,124A (Thalmann), titled "Pulse-rate indicator," and issued December 12, 1978.
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- 18. U.S. Patent No. 4,684,245A (Goldring), titled "Electro-optical coupler for catheter oximeter," and issued August 4, 1987.
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- 20. U.S. Patent No. 4,755,676A (Gaalema et al.), titled "Infrared detector with improved heat dissipation," and issued July 5, 1988.
- 21. U.S. Patent No. 4,759,369A (Taylor), titled "Pulse oximeter," and issued July 26, 1988.
- 22. U.S. Patent No. 4,781,195A (Martin), titled "Blood monitoring apparatus and methods with amplifier input dark current correction," and issued November 1, 1988.
- 23. U.S. Patent No. 4,782,836A (Alt), titled "Rate adaptive cardiac pacemaker responsive to patient activity and temperature," and issued November 8, 1988.
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- 29. U.S. Patent No. 4,865,038A (Rich et al.), titled "Sensor appliance for non-invasive monitoring," and issued September 12, 1989.
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- 40. U.S. Patent No. 4,960,128A (Gordon et al.), titled "Method and apparatus for continuously and non-invasively measuring the blood pressure of a patient," and issued October 2, 1990.
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- 79. U.S. Patent No. 5,297,548A (Pologe), titled "Arterial blood monitoring probe," and issued March 29, 1994.
- 80. U.S. Patent No. 5,319,355A (Russek), titled "Alarm for patient monitor and life support equipment system," and issued June 7, 1994.
- 81. U.S. Patent No. 5,333,616A (Mills et al.), titled "Wrist-worn ECG monitor," and issued August 2, 1994.
- 82. U.S. Patent No. 5,337,744A (Branigan), titled "Low noise finger cot probe," and issued August 16, 1994.
- 83. U.S. Patent No. 5,337,745A (Benaron), titled "Device and method for in vivo qualitative or quantative measurement of blood chromophore concentration using blood pulse spectrophotometry," and issued August 16, 1994.
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- 88. U.S. Design Patent No. D353,195S (Savage et al.), titled "Electronic stethoscope housing," and issued December 6, 1994.
- 89. U.S. Design Patent No. D353,196S (Savage et al.), titled "Stethoscope head," and issued December 6, 1994.
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- 109. U.S. Patent No. 5,490,506A (Takatani et al.), titled "Peripheral blood flow evaluating apparatus," and issued February 13, 1996.
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III. <u>Identification of Exemplary Prior Art to U.S. Patent No. 10,945,648</u>

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- 917. U.S. Patent No. 8,548,549B2 (Schurman et al.), titled "Methods for noninvasively measuring analyte levels in a subject," and issued October 1, 2013.
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C. Non-Patent Publications

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IV. Identification of Exemplary Prior Art to U.S. Patent No. 10,687,745

A. U.S. Patent Publications

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- 41. U.S. Patent No. 5,758,644A (Diab et al.), titled "Manual and automatic probe calibration," and issued June 2, 1998.
- 42. U.S. Patent No. 5,760,910A (Lepper, Jr. et al.), titled "Optical filter for spectroscopic measurement and method of producing the optical filter," and issued June 2, 1998.
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- 160. U.S. Patent No. 6,816,741B2 (Diab), titled "Plethysmograph pulse recognition processor," and issued November 9, 2004.
- 161. U.S. Patent No. 6,822,564B2 (Al-Ali), titled "Parallel measurement alarm processor," and issued November 23, 2004.
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- 227. U.S. Patent No. 7,371,981B2 (Abdul-Hafiz), titled "Connector switch," and issued May 13, 2008.
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- 237. U.S. Patent No. 7,440,787B2 (Diab), titled "Systems and methods for determining blood oxygen saturation values using complex number encoding," and issued October 21, 2008.
- 238. U.S. Patent No. 7,454,240B2 (Diab et al.), titled "Signal processing apparatus," and issued November 18, 2008.
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- 242. U.S. Patent No. 7,471,971B2 (Diab et al.), titled "Signal processing apparatus and method," and issued December 30, 2008.
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- 247. U.S. Patent No. 7,496,393B2 (Diab et al.), titled "Signal processing apparatus," and issued February 24, 2009.
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- 253. U.S. Patent No. 7,510,849B2 (Schurman et al.), titled "Oct based method for diagnosis and therapy," and issued March 31, 2009.
- 254. U.S. Patent No. 7,519,327B2 (White), titled "Athletic monitoring system and method," and issued April 14, 2009.
- 255. U.S. Patent No. 7,526,328B2 (Diab et al.), titled "Manual and automatic probe calibration," and issued April 28, 2009.
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- 262. U.S. Patent No. 7,613,490B2 (Sarussi et al.), titled "Physiological stress detector device and system," and issued November 3, 2009.

- 263. U.S. Patent No. 7,618,375B2 (Flaherty), titled "Rapid non-invasive blood pressure measuring device," and issued November 17, 2009.
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- 296. U.S. Patent No. 7,937,130B2 (Diab et al.), titled "Signal processing apparatus," and issued May 3, 2011.
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- 318. U.S. Patent No. 8,071,935B2 (Besko et al.), titled "Optical detector with an overmolded faraday shield," and issued December 6, 2011.
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- 320. U.S. Patent No. 8,126,528B2 (Diab et al.), titled "Signal processing apparatus," and issued February 28, 2012.
- 321. U.S. Patent No. 8,128,572B2 (Diab et al.), titled "Signal processing apparatus," and issued March 6, 2012.

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- 325. U.S. Patent No. 8,175,672B2 (Parker), titled "Reusable pulse oximeter probe and disposable bandage apparatii," and issued May 8, 2012.
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- 343. U.S. Patent No. 8,260,577B2 (Weber et al.), titled "Variable indication estimator," and issued September 4, 2012.
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- 399. U.S. Patent No. 8,560,034B1 (Diab et al.), titled "Signal processing apparatus," and issued October 15, 2013.
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- 402. U.S. Patent No. 8,571,617B2 (Reichgott et al.), titled "Flowometry in optical coherence tomography for analyte level estimation," and issued October 29, 2013.
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- 426. U.S. Patent No. 8,682,407B2 (Al-Ali), titled "Cyanotic infant sensor," and issued March 25, 2014.
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V. Identification of Exemplary Prior Art to U.S. Patent No. 7,761,127

A. U.S. Patent Publications

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- 3. U.S. Patent No. 4,167,331 (Nielsen), titled "Multi-wavelength incremental absorbence oximeter," and issued September 11, 1979.
- 4. U.S. Patent No. 4,266,554 (Hamaguri), titled "Digital oximeter," and issued May 12, 1981.
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- 162. U.S. Patent No. 5,919,134 (Diab), titled "Method and apparatus for demodulating signals in a pulse oximetry system," and issued July 6, 1999.

- 163. U.S. Patent No. 5,921,921 (Potratz et al.), titled "Pulse oximeter with sigma-delta converter," and issued July 13, 1999.
- 164. U.S. Patent No. 5,934,277 (Mortz), titled "System for pulse oximetry SpO2 determination," and issued August 10, 1999.
- 165. U.S. Patent No. 5,934,925 (Tobler et al.), titled "Patient cable connector," and issued August 10, 1999.
- 166. U.S. Patent No. 5,940,182 (Lepper, Jr. et al.), titled "Optical filter for spectroscopic measurement and method of producing the optical filter," and August 17, 1999.
- 167. U.S. Patent No. 5,954,644 (Dettling), titled "Method for ambient light subtraction in a photoplethysmographic measurement instrument," and issued September 21, 1999.
- 168. U.S. Patent No. 5,978,691 (Mills), titled "Device and method for noninvasive continuous determination of blood gases, pH, hemoglobin level, and oxygen content," and issued November 2, 1999.
- 169. U.S. Patent No. 5,983,122 (Jarman et al.), titled "Apparatus and method for improved photoplethysmographic monitoring of multiple hemoglobin species using emitters having optimized center wavelengths," and issued November 9, 1999.
- 170. U.S. Patent No. 5,995,855 (Kiani et al.), titled "Pulse oximetry sensor adapter," and issued November 30, 1999.
- 171. U.S. Patent No. 5,995,856 (Mannheimer et al.), titled "Non-contact optical monitoring of physiological parameters," and issued November 30, 1999.
- 172. U.S. Patent No. 5,995,859 (Takahashi), titled "Method and apparatus for accurately measuring the saturated oxygen in arterial blood by substantially eliminating noise from the measurement signal," and issued November 30, 1999.
- 173. U.S. Patent No. 5,997,343 (Mills et al.), titled "Patient cable sensor switch," and issued December 7, 1999.
- 174. U.S. Patent No. 5,999,841 (Aoyagi et al.), titled "Apparatus for measuring circulating blood volume," and issued December 7, 1999.
- 175. U.S. Patent No. 6,002,952 (Diab et al.), titled "Signal processing apparatus and method," and issued December 14, 1999.

- 176. U.S. Patent No. 6,006,119 (Soller et al.), titled "Non-invasive optical measurement of blood hematocrit," and issued December 21, 1999.
- 177. U.S. Patent No. 6,011,986 (Diab et al.), titled "Manual and automatic probe calibration," and issued January 4, 2000.
- 178. U.S. Patent No. 6,014,576 (Raley), titled "Segmented photoplethysmographic sensor with universal probe-end," and issued January 11, 2000.
- 179. U.S. Patent No. 6,018,673 (Chin et al.), titled "Motion compatible sensor for non-invasive optical blood analysis," and issued January 25, 2000.
- 180. U.S. Patent No. 6,018,674 (Aronow), titled "Fast-turnoff photodiodes with switched-gain preamplifiers in photoplethysmographic measurement instruments," and issued January 25, 2000.
- 181. U.S. Patent No. 6,023,541 (Merchant et al.), titled "Active optical oximeter probe adapter," and issued February 8, 2000.
- 182. U.S. Patent No. 6,027,452 (Flaherty et al.), titled "Rapid non-invasive blood pressure measuring device," and issued February 22, 2000.
- 183. U.S. Patent No. 6,036,642 (Diab et al.), titled "Signal processing apparatus and method," and issued March 14, 2000.
- 184. U.S. Patent No. 6,045,509 (Caro et al.), titled "Apparatus and method for measuring an induced perturbation to determine a physiological parameter," and issued April 4, 2000.
- 185. U.S. Patent No. 6,064,898 (Aldrich), titled "Non-invasive blood component analyzer," and issued May 16, 2000.
- 186. U.S. Patent No. 6,067,462 (Diab et al.), titled "Signal processing apparatus and method," and issued May 23, 2000.
- 187. U.S. Patent No. 6,068,594 (Schloemer et al.), titled "Parameter disturbance response apparatus," and issued May 30, 2000.
- 188. U.S. Patent No. 6,073,037 (Alam et al.), titled "Near-infrared noninvasive determination of pH in pulse mode," and issued June 6, 2000.
- 189. U.S. Patent No. 6,081,735 (Diab et al.), titled "Signal processing apparatus," and issued June 27, 2000.

- 190. U.S. Patent No. 6,083,172 (Baker, Jr. et al.), titled "Method and apparatus for estimating physiological parameters using model-based adaptive filtering," and issued July 4, 2000.
- 191. U.S. Patent No. 6,088,607 (Diab et al.), titled "Low noise optical probe," and issued July 11, 2000.
- 192. U.S. Patent No. 6,094,592 (Yorkey et al.), titled "Methods and apparatus for estimating a physiological parameter using transforms," and issued July 25, 2000.
- 193. U.S. Patent No. 6,104,938 (Huiku), titled "Procedure, apparatus and detector for the determination of fractional oxygen saturation," and issued August 15, 2000.
- 194. U.S. Patent No. 6,110,522 (Lepper, Jr. et al.), titled "Blood glucose monitoring system," and issued August 29, 2000.
- 195. U.S. Patent No. 6,112,107 (Hannula), titled "Flexible sensor with bulge enhancing contact," and issued August 29, 2000.
- 196. U.S. Patent No. 6,122,042 (Wunderman et al.), titled "Devices and methods for optically identifying characteristics of material objects," and issued September 19, 2000.
- 197. U.S. Patent No. 6,144,868 (Parker), titled "Reusable pulse oximeter probe and disposable bandage apparatus," and issued November 7, 2000.
- 198. U.S. Patent No. 6,149,588 (Noda et al.), titled "Blood sugar value measuring method and apparatus," and issued November 21,2000.
- 199. U.S. Patent No. 6,151,516 (Kiani-Azarbayjany et al.), titled "Active pulse blood constituent monitoring," and issued November 21, 2000.
- 200. U.S. Patent No. 6,151,518 (Hayashi), titled "Instrument for measuring concentrations of constituent parts of blood," and issued November 21, 2000.
- 201. U.S. Patent No. 6,152,754 (Gerhardt et al.), titled "Circuit board based cable connector," and issued November 28, 2000.
- 202. U.S. Patent No. 6,154,667 (Miura et al.), titled "Pulse oximeter probe," and issued November 28, 2000.
- 203. U.S. Patent No. 6,157,041 (Thomas et al.), titled "Methods and apparatus for tailoring spectroscopic calibration models," and issued December 5, 2000.

- 204. U.S. Patent No. 6,157,850 (Diab et al.), titled "Signal processing apparatus," and issued December 5, 2000.
- 205. U.S. Patent No. 6,165,005 (Mills et al.), titled "Patient cable sensor switch," and issued December 26, 2000.
- 206. U.S. Patent No. 6,174,283B1 (Nevo et al.), titled "Apparatus and method for monitoring a system and displaying the status of the system," and issued January 16, 2001.
- 207. U.S. Patent No. 6,184,521 (Coffin, IV et al.), titled "Photodiode detector with integrated noise shielding," and issued February 6, 2001.
- 208. U.S. Patent No. 6,206,830 (Diab et al.), titled "Signal processing apparatus and method," and issued March 27, 2001.
- 209. U.S. Patent No. 6,226,539 (Potratz), titled "Pulse oximeter having a low power led drive," and issued May 1, 2001.
- 210. U.S. Patent No. 6,229,856 (Diab et al.), titled "Method and apparatus for demodulating signals in a pulse oximetry system," and issued May 8, 2001.
- 211. U.S. Patent No. 6,230,035 (Aoyagi et al.), titled "Apparatus for determining concentrations of light-absorbing materials in living tissue," and issued May 8, 2001.
- 212. U.S. Patent No. 6,236,872 (Diab et al.), titled "Signal processing apparatus," and issued May 22,2001.
- 213. U.S. Patent No. 6,253,097 (Aronow et al.), titled "Noninvasive medical monitoring instrument using surface emitting laser devices," and issued June 26, 2001.
- 214. U.S. Patent No. 6,256,523 (Diab et al.), titled "Low-noise optical probes," and issued July 3, 2001.
- 215. U.S. Patent No. 6,263,222 (Diab et al.), titled "Signal processing apparatus," and issued July 17, 2001.
- 216. U.S. Patent No. 6,272,363 (Casciani et al.), titled "Pulse oximeter and sensor optimized for low saturation," and issued August 7, 2001.
- 217. U.S. Patent No. 6,278,522 (Lepper, Jr. et al.), titled "Optical filter for spectroscopic measurement and method of producing the optical filter," and issued August 21, 2001.

- 218. U.S. Patent No. 6,280,213 (Tobler et al.), titled "Patient cable connector," and issued August 28, 2001.
- 219. U.S. Patent No. 6,285,895 (Ristolainen et al.), titled "Measuring sensor for monitoring characteristics of a living tissue," and issued September 4, 2001.
- 220. U.S. Patent No. 6,285,896 (Tobler et al.), titled "Fetal pulse oximetry sensor," and issued September 4, 2001.
- 221. U.S. Patent No. 6,298,252 (Kovach et al.), titled "Oximeter sensor with encoder connected to detector," and issued October 2, 2001.
- 222. U.S. Patent No. 6,304,675 (Osbournet al.), titled "Visual cluster analysis and pattern recognition methods," and issued October 16, 2001.
- 223. U.S. Patent No. 6,304,767 (Soller et al.), titled "Non-invasive optical measurement of blood hematocrit," and issued October 16, 2001.
- 224. U.S. Patent No. 6,321,100 (Parker), titled "Reusable pulse oximeter probe with disposable liner," and issued November 20, 2001.
- 225. U.S. Patent No. 6,330,468 (Scharf), titled "System using green light to determine parmeters of a cardiovascular system," and issued December 11, 2001.
- 226. U.S. Patent No. 6,334,065 (Al-Ali et al.), titled "Stereo pulse oximeter," and issued December 25, 2001.
- 227. U.S. Patent No. 6,341,257 (Haaland), titled "Hybrid least squares multivariate spectral analysis methods," and issued January 22,2002.
- 228. U.S. Patent No. 6,343,224 (Parker), titled "Reusable pulse oximeter probe and disposable bandage apparatus," and issued January 29, 2002.
- 229. U.S. Patent No. 6,349,228 (Kiani et al.), titled "Pulse oximetry sensor adapter," and issued February 19, 2002.
- 230. U.S. Patent No. 6,351,658 (Middleman et al.), titled "Multiple-code oximeter calibration element," and issued February 26, 2002.
- 231. U.S. Patent No. 6,356,774 (Bernstein et al.), titled "Oximeter sensor with encoded temperature characteristic," and issued March 12, 2002.
- 232. U.S. Patent No. 6,360,113 (Dettling), titled "Photoplethysmographic instrument," and issued March 19, 2002.

- 233. U.S. Patent No. 6,360,114 (Diab et al.), titled "Pulse oximeter probe-off detector," and issued March 19, 2002.
- 234. U.S. Patent No. 6,363,269 (Hanna et al.), titled "Synchronized modulation/demodulation method and apparatus for frequency division multiplexed spectrophotometric system," and issued March 26, 2002.
- 235. U.S. Patent No. 6,371,921 (Caro et al.), titled "System and method of determining whether to recalibrate a blood pressure monitor," and issued April 16, 2002.
- 236. U.S. Patent No. 6,374,129 (Chin et al.), titled "Motion compatible sensor for non-invasive optical blood analysis," and issued April 16, 2002.
- 237. U.S. Patent No. 6,377,828 (Chaiken et al.), titled "Method for non-invasive measurement of an analyte," and issued April 23, 2002.
- 238. U.S. Patent No. 6,377,829 (Al-Ali), titled "Resposable pulse oximetry sensor," and issued April 23, 2002.
- 239. U.S. Patent No. 6,388,240 (Schulz et al.), titled "Shielded optical probe and method having a longevity indication," and issued May 14, 2002.
- 240. U.S. Patent No. 6,393,310 (Kuenstner), titled "Methods and systems for clinical analyte determination by visible and infrared spectroscopy," and issued May 21, 2002.
- 241. U.S. Patent No. 6,397,091 (Diab et al.), titled "Manual and automatic probe calibration," and issued May 28, 2002.
- 242. U.S. Patent No. 6,397,092 (Norris et al.), titled "Oversampling pulse oximeter," and issued May 28, 2002.
- 243. U.S. Patent No. 6,397,093 (Aldrich), titled "Non-invasive carboxyhemoglobin analyzer," and issued May 28, 2002.
- 244. U.S. Patent No. 6,408,198 (Hanna et al.), titled "Method and system for improving photoplethysmographic analyte measurements by de-weighting motion-contaminated data," and issued June 18, 2002.
- 245. U.S. Patent No. 6,411,833 (Baker, Jr. et al.), titled "Method and apparatus for estimating physiological parameters using model-based adaptive filtering," and issued June 25, 2002.
- 246. U.S. Patent No. 6,415,166 (Van Hoy et al.), titled "Photoplethysmographic device with remote facsimile," and issued July 2, 2002.

- 247. U.S. Patent No. 6,415,233 (Haaland), titled "Classical least squares multivariate spectral analysis," and issued July 2, 2002.
- 248. U.S. Patent No. 6,415,236 (Kobayashi et al.), titled "Apparatus for determining concentrations of hemoglobins," and issued July 2, 2002.
- 249. U.S. Patent No. 6,430,525 (Weber et al.), titled "Variable mode averager," and issued August 6, 2002.
- 250. U.S. Patent No. 6,434,408 (Heckel), titled "Pulse oximetry method and system with improved motion correction," and issued August 13, 2002.
- 251. U.S. Patent No. 6,441,388 (Thomas et al.), titled "Methods and apparatus for spectroscopic calibration model transfer," and issued August 27, 2002.
- 252. U.S. Patent No. 6,453,184 (Hyogo et al.), titled "Device for measuring light absorption materials in blood," and issued September 17, 2002.
- 253. U.S. Patent No. 6,463,310 (Swedlow et al.), titled "Method and circuit for storing and providing historical physiological data," and issued October 8, 2002.
- 254. U.S. Patent No. 6,463,311 (Diab), titled "Plethysmograph pulse recognition processor," and issued October 8, 2002.
- 255. U.S. Patent No. 6,466,824B1 (Struble), titled "Bi-atrial and/or biventricular patient safety cable and methods regarding same," and issued October 15, 2002.
- 256. U.S. Patent No. 6,470,199 (Kopotic et al.), titled "Elastic sock for positioning an optical probe," and issued October 22, 2002.
- 257. U.S. Patent No. 6,480,729 (Stone), titled "Method for determining blood constituents," and issued November 12, 2002.
- 258. U.S. Patent No. 6,490,466 (Fein et al.), titled "Interconnect circuit between non-compatible oximeter and sensor," and issued December 3, 2002.
- 259. U.S. Patent No. 6,497,659 (Rafert), titled "System for identifying a cable transmitting a signal from a sensor to an electronic instrument," and issued December 24, 2002.
- 260. U.S. Patent No. 6,501,974 (Huiku), titled "Compensation of human variability in pulse oximetry," and issued December 31,2002.

- 261. U.S. Patent No. 6,501,975 (Diab et al.), titled "Signal processing apparatus and method," and issued December 31, 2002.
- 262. U.S. Patent No. 6,504,943 (Sweatt et al.), titled "Information-efficient spectral imaging sensor," and issued January 07, 2003.
- 263. U.S. Patent No. 6,505,060 (Norris), titled "Method and apparatus for determining pulse oximetry differential values," and issued January 07, 2003.
- 264. U.S. Patent No. 6,505,061 (Larson), titled "Pulse oximetry sensor with improved appendage cushion," and issued January 7, 2003.
- 265. U.S. Patent No. 6,505,133 (Hanna), titled "Simultaneous signal attenuation measurements utilizing code division multiplexing," and issued January 07, 2003.
- 266. U.S. Patent No. 6,510,329 (Heckel), titled "Detection of sensor off conditions in a pulse oximeter," and issued January 21, 2003.
- 267. U.S. Patent No. 6,515,273 (Al-Ali), titled "System for indicating the expiration of the useful operating life of a pulse oximetry sensor," and issued February 4, 2003.
- 268. U.S. Patent No. 6,519,486 (Edgar, Jr. et al.), titled "Method, apparatus and system for removing motion artifacts from measurements of bodily parameters," and issued February 11,2003.
- 269. U.S. Patent No. 6,519,487 (Parker), titled "Reusable pulse oximeter probe and disposable bandage apparatus," and issued February 11, 2003.
- 270. U.S. Patent No. 6,522,398 (Cadell et al.), titled "Apparatus for measuring hematocrit," and issued February 18, 2003.
- 271. U.S. Patent No. 6,525,386 (Mills et al.), titled "Non-protruding optoelectronic lens," and issued February 25, 2003.
- 272. U.S. Patent No. 6,526,300 (Kiani et al.), titled "Pulse oximeter probe-off detection system," and issued February 25, 2003.
- 273. U.S. Patent No. 6,526,301 (Larsen et al.), titled "Direct to digital oximeter and method for calculating oxygenation levels," and issued February 25, 2003.
- 274. U.S. Patent No. 6,528,809 (Thomas et al.), titled "Methods and apparatus for tailoring spectroscopic calibration models," and issued March 4, 2003.

- 275. U.S. Patent No. 6,537,225 (Mills), titled "Device and method for noninvasive continuous determination of physiologic characteristics," and issued March 25, 2003.
- 276. U.S. Patent No. 6,541,756 (Schulz et al.), titled "Shielded optical probe having an electrical connector," and issued April 1, 2003.
- 277. U.S. Patent No. 6,542,764 (Al-Ali et al.), titled "Pulse oximeter monitor for expressing the urgency of the patient's condition," and issued April 1, 2003.
- 278. U.S. Patent No. 6,546,267 (Sugiura), titled "Biological sensor," and issued April 8, 2003.
- 279. U.S. Patent No. 6,553,241 (Mannheimer et al.), titled "Oximeter sensor with digital memory encoding sensor expiration data," and issued April 22, 2003.
- 280. U.S. Patent No. 6,564,077 (Mortara), titled "Method and apparatus for pulse oximetry," and issued May 13,2003.
- 281. U.S. Patent No. 6,571,113 (Fein et al.), titled "Oximeter sensor adapter with coding element," and issued May 27,2003.
- 282. U.S. Patent No. 6,580,086 (Schulz et al.), titled "Shielded optical probe and method," and issued June 17, 2003.
- 283. U.S. Patent No. 6,582,964 (Samsoondar et al.), titled "Method and apparatus for rapid measurement of HbA1c," and issued June 24, 2003.
- 284. U.S. Patent No. 6,584,336 (Ali et al.), titled "Universal/upgrading pulse oximeter," and issued June 24, 2003.
- 285. U.S. Patent No. 6,584,413 (Keenan et al.), titled "Apparatus and system for multivariate spectral analysis," and issued June 24, 2003.
- 286. U.S. Patent No. 6,591,123 (Fein et al.), titled "Oximeter sensor with digital memory recording sensor data," and issued July 8, 2003.
- 287. U.S. Patent No. 6,594,511 (Stone et al.), titled "Method and apparatus for determining physiological characteristics," and issued July 15, 2003.
- 288. U.S. Patent No. 6,595,316 (Cybulski et al.), titled "Tension-adjustable mechanism for stethoscope earpieces," and issued July 22, 2003.
- 289. U.S. Patent No. 6,597,933 (Kiani et al.), titled "Pulse oximetry sensor adapter," and issued July 22, 2003.

- 290. U.S. Patent No. 6,600,940 (Fein et al.), titled "Oximeter sensor with digital memory," and issued July 29,2003.
- 291. U.S. Patent No. 6,606,509 (Schmitt), titled "Method and apparatus for improving the accuracy of noninvasive hematocrit measurements," and issued August 12, 2003.
- 292. U.S. Patent No. 6,606,510 (Swedlow et al.), titled "Oximeter sensor with digital memory encoding patient data," and issued August 12, 2003.
- 293. U.S. Patent No. 6,606,511 (Ali et al.), titled "Pulse oximetry pulse indicator," and issued August 12, 2003.
- 294. U.S. Patent No. 6,611,698 (Yamashita et al.), titled "Optical measuring instrument," and issued August 26, 2003.
- 295. U.S. Patent No. 6,614,521 (Samsoondar et al.), titled "Device for verifying the accuracy of a spectral analyzer," and issued September 2, 2003.
- 296. U.S. Patent No. 6,615,064 (Aldrich), titled "Non-invasive blood component analyzer," and issued September 2, 2003.
- 297. U.S. Patent No. 6,615,151 (Scecina et al.), titled "Method for creating spectral instrument variation tolerance in calibration algorithms," and issued September 2, 2003.
- 298. U.S. Patent No. 6,618,602 (Levin), titled "Method and apparatus for simultaneously determining a patient's identification and blood oxygen saturation," and issued September 9, 2003.
- 299. U.S. Patent No. 6,622,095 (Kobayashi et al.), titled "Apparatus for determining concentrations of hemoglobins," and issued September 16, 2003.
- 300. U.S. Patent No. 6,628,975 (Fein et al.), titled "Oximeter sensor with digital memory storing data," and issued September 30, 2003.
- 301. U.S. Patent No. 6,631,281 (Kastle), titled "Recognition of a useful signal in a measurement signal," and issued October 7, 2003.
- 302. U.S. Patent No. 6,632,181 (Flaherty et al.), titled "Rapid non-invasive blood pressure measuring device," and issued October 14, 2003.
- 303. U.S. Patent No. 6,640,116 (Diab), titled "Optical spectroscopy pathlength measurement system," and issued October 28, 2003.

- 304. U.S. Patent No. 6,643,530 (Diab et al.), titled "Method and apparatus for demodulating signals in a pulse oximetry system," and issued November 4, 2003.
- 305. U.S. Patent No. 6,650,917 (Diab et al.), titled "Signal processing apparatus," and issued November 18, 2003.
- 306. U.S. Patent No. 6,654,623 (Kastle), titled "Interference suppression for measuring signals with periodic wanted signals," and issued November 25, 2003.
- 307. U.S. Patent No. 6,654,624 (Diab et al.), titled "Pulse oximeter probe-off detector," and issued November 25, 2003.
- 308. U.S. Patent No. 6,657,717 (Cadell et al.), titled "Device for verifying the accuracy of a spectral analyzer," and issued December 2, 2003.
- 309. U.S. Patent No. 6,658,276 (Kiani et al.), titled "Pulse oximeter user interface," and issued December 2, 2003.
- 310. U.S. Patent No. 6,658,277 (Wasserman), titled "Signal processing method and device for signal-to-noise improvement," and issued December 2, 2003.
- 311. U.S. Patent No. 6,661,161 (Lanzo et al.), titled "Piezoelectric biological sound monitor with printed circuit board," and issued December 9, 2003.
- 312. U.S. Patent No. 6,662,033 (Casciani et al.), titled "Pulse oximeter and sensor optimized for low saturation," and issued December 9, 2003.
- 313. U.S. Patent No. 6,665,551 (Suzuki), titled "Current driving system of light emitting diode," and issued December 16, 2003.
- 314. U.S. Patent No. 6,668,183 (Hicks et al.), titled "Diode detection circuit," and issued December 23, 2003.
- 315. U.S. Patent No. 6,671,526 (Aoyagi et al.), titled "Probe and apparatus for determining concentration of light-absorbing materials in living tissue," and issued December 30, 2003.
- 316. U.S. Patent No. 6,671,531 (Al-Ali et al.), titled "Sensor wrap including foldable applicator," and issued December 30, 2003.
- 317. U.S. Patent No. 6,675,031 (Porges et al.), titled "Method and circuit for indicating quality and accuracy of physiological measurements," and issued January 06, 2004.

- 318. U.S. Patent No. 6,675,106 (Keenan et al.), titled "Method of multivariate spectral analysis," and issued January 06, 2004.
- 319. U.S. Patent No. 6,678,543 (Diab et al.), titled "Optical probe and positioning wrap," and issued January 13, 2004.
- 320. U.S. Patent No. 6,681,126 (Solenberger), titled "Method and apparatus for improving the durability of a sensor," and issued January 20, 2004.
- 321. U.S. Patent No. 6,684,090 (Ali et al.), titled "Pulse oximetry data confidence indicator," and issued January 27, 2004.
- 322. U.S. Patent No. 6,684,091 (Parker), titled "Reusable pulse oximeter probe and disposable bandage method," and issued January 27, 2004.
- 323. U.S. Patent No. 6,687,620 (Haaland et al.), titled "Augmented classical least squares multivariate spectral analysis," and issued February 3, 2004.
- 324. U.S. Patent No. 6,694,157 (Stone et al.), titled "Method and apparatus for determination of pH pCO2, hemoglobin, and hemoglobin oxygen saturation," and issued February 17, 2004.
- 325. U.S. Patent No. 6,697,655 (Sueppel et al.), titled "Low power pulse oximeter," and issued February 24, 2004.
- 326. U.S. Patent No. 6,697,656 (Al-Ali), titled "Pulse oximetry sensor compatible with multiple pulse oximetry systems," and issued February 24, 2004.
- 327. U.S. Patent No. 6,697,658 (Al-Ali), titled "Low power pulse oximeter," and issued February 24, 2004.
- 328. U.S. Patent No. 6,699,194 (Diab et al.), titled "Signal processing apparatus and method," and issued March 2, 2004.
- 329. U.S. Patent No. 6,701,170 (Stetson), titled "Blind source separation of pulse oximetry signals," and issued March 2, 2004.
- 330. U.S. Patent No. 6,708,049 (Berson et al.), titled "Sensor with signature of data relating to sensor," and issued March 16, 2004.
- 331. U.S. Patent No. 6,711,503 (Haaland), titled "Hybrid least squares multivariate spectral analysis methods," and issued March 23, 2004.
- 332. U.S. Patent No. 6,714,803 (Mortz), titled "Pulse oximetry SpO2 determination," and issued March 30, 2004.

- 333. U.S. Patent No. 6,714,804 (Al-Ali et al.), titled "Stereo pulse oximeter," and issued March 30, 2004.
- 334. U.S. Patent No. 6,714,805 (Jeon et al.), titled "Method and apparatus for noninvasively monitoring hemoglobin concentration and oxygen saturation," and issued March 30, 2004.
- 335. U.S. Patent No. 6,719,705 (Mills), titled "Device and method for noninvasive continuous determination of physiologic characteristics," and issued April 13, 2004.
- 336. U.S. Patent No. 6,720,734 (Norris), titled "Oximeter with nulled op-amp current feedback," and issued April 13, 2004.
- 337. U.S. Patent No. 6,721,585 (Parker), titled "Universal modular pulse oximeter probe for use with reusable and disposable patient attachment devices," and issued April 13, 2004.
- 338. U.S. Patent No. 6,721,584 (Baker, Jr. et al.), titled "Method and apparatus for estimating physiological parameters using model-based adaptive filtering," and issued April 13, 2004.
- 339. U.S. Patent No. 6,725,074 (Kastle), titled "Quality indicator for measurement signals, in particular, for medical measurement signals such as those used in measuring oxygen saturation," and issued April 20, 2004.
- 340. U.S. Patent No. 6,725,075 (Al-Ali), titled "Resposable pulse oximetry sensor," and issued April 20, 2004.
- 341. U.S. Patent No. 6,726,634 (Freeman), titled "System and method for determining a condition of a patient," and issued April 27, 2004.
- 342. U.S. Patent No. 6,735,459 (Parker), titled "Reusable pulse oximeter probe and disposable bandage apparatus," and issued May 11,2004
- 343. U.S. Patent No. 6,741,875 (Pawluczyk et al.), titled "Method for determination of analytes using near infrared, adjacent visible spectrum and an array of longer near infrared wavelengths," and issued May 25, 2004.
- 344. U.S. Patent No. 6,741,876 (Scecina et al.), titled "Method for determination of analytes using NIR, adjacent visible spectrum and discrete NIR wavelenths," and issued May 25, 2004.
- 345. U.S. Patent No. 6,743,172 (Blike), titled "System and method for displaying medical process diagrams," and issued June 1, 2004.

- 346. U.S. Patent No. 6,745,060 (Diab et al.), titled "Signal processing apparatus," and issued June 1, 2004.
- 347. U.S. Patent No. 6,745,061 (Hicks et al.), titled "Disposable oximetry sensor," and issued June 1, 2004.
- 348. U.S. Patent No. 6,748,253 (Norris et al.), titled "Oversampling pulse oximeter," and issued June 8, 2004.
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B. Foreign Patent Publications

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CERTAIN LIGHT-BASED PHYSIOLOGICAL MEASUREMENT DEVICES AND COMPONENTS THEREOF

Inv. No. 337-TA-1276

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Stephen C. Jensen Joseph R. Re Sheila N. Swaroop Ted. M. Cannon Alan G. Laquer Kendall M. Loebbaka KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 Main Street Fourteenth Floor Irvine, CA 92614	□ Via Hand Delivery (2 Copies) □ Via Overnight Delivery □ Via Facsimile ☑ Via Electronic Mail masimo.appleitc@knobbe.com
William R. Zimmerman Jonathan E. Bachand KNOBBE, MARTENS, OLSON & BEAR, LLP 1717 Pennsylvania Avenue N.W., Suite 900 Washington, DC 20006	
Brian C. Horne KNOBBE, MARTENS, OLSON & BEAR, LLP 1925 Century Park East Suite 600 Los Angeles, CA 90067	

Karl W. Kowalis
Matthew S. Friedrichs
KNOBBE, MARTENS, OLSON & BEAR, LLP
1155 Avenue of the Americas
24th Floor
New York, NY 10036
Counsel for Complainants

/s/ Lanta M. Chase
Lanta M. Chase